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TI Method for enrichment of unique DNA fragments through cyclical removal of PCR adapter attached to DNA fragments whose sequences are shared between two DNA pools.
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DT Patent
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AB A method of rapid isolation and enrichment of the differences of DNA fragments between two pools of DNA. These methods feature a process of converting undesirable **tester** to **driver**, and then re-utilizing the converted "**driver**" in the **repeats** of subtraction to achieve double exponential **elimination** of undesirable **tester** sequence. Improvements include: i) bypassing the need of PCR amplification or physical separation of desirable **tester** from undesirable one in each **repeat** of subtraction, it **eliminates** the necessity of **tester** dilution in each **repeat** of subtraction; ii) utilizing the converted "**driver**" from each **repeat** of subtraction, it **eliminates** the need for re-introducing additional **driver** into hybridization in each repeat of subtraction. These methods typically include: a) attaching a specific PCR adapter to the 5' and 3' ends of a DNA fragment from one DNA pool to form "**tester**" (Step A); (b) **tester** is mixed with **driver** that is not attached to adapter; (c) the mixture undergoes denaturing, re-annealing, and is followed by removal of adapter from **tester/driver** heteroduplex by single strand DNA specific nuclease; d) the process of (c) is then repeated at least once.